



Health Information System

Chapter 2.

Using Information to Make Decision

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**Subject – Foundation of Health Information System
and Information Technology**

Use of Information

Assumptions of HIS

- Good data, once available, will be transformed into useful information
- Which, in turn, will influence decisions
- Such information-based decisions will lead to better policy and programmes and policies.

Use of Information Cont.

- Information can only influence decisions if it is relevant, reliable and available for the decision maker in a timely manner
- Available of high quality information does not always guarantee its appropriate use in the decision making process.
- Much of the material remains
 - unprocessed, or
 - if processed, unanalyzed or
 - If analyzed, not read or
 - If read, not used or acted upon

Use of Information Cont.

- Inappropriate use of information
 - NON use
 - Under use
 - Misuse
 - Premature use
 - Overuse
- Raw data are meaningless in and of themselves and need to undergo a series of cognitive transformations such as data selection and data reduction.
- Processing and analysis of information with problem solving in mind leads to new knowledge. The interpretation of this knowledge is, then, guided by subjective judgment rather than by objective scientific rigor

Ways to enhance the use the information in decision making

- Characteristics of the data
- Characteristics of decisions
- Characteristics of organization
- Cultural difference between “data people” and “action people”
- Communication between “data action” and “action people”

Characteristics of the data

- (a) Ownership and relevance
- (b) Validity and reliability
- (c) Aggregation of data
- (d) Customizing information to user's needs
- (e) Timeliness of reporting and feedback

Characteristics of the data Cont.

(a) Ownership and relevance

Make all potential users of a HIS actively participate in all phases of designing HIS because it will foster relevance and ownership.

Phases

- Identifying the data to be collected
- Choosing the indicators
- Determining the threshold values for actions
- Defining what information should go to which users

Characteristics of the data Cont.

(b) Validity and reliability

- Information tends to be used significantly more if decision makers are convinced of its reliability and validity.
- Ensure reasonable level of validity and reliability and make regular check up on them.

Characteristics of the data Cont.

(c) Aggregation of data

- Decision-makers at the system level got too much detail with too little aggregation.
- Decision-makers at the district or health center level got too aggregated data with no specific data for local use.
- Tailor the aggregation of data to user's needs

Characteristics of the data Cont.

(d) Customizing information to user's needs

- There are many users in the system with different information needs: like community, local, township/district, regional levels of health care, general public, the media or other sectors relevant to health (such as education, agriculture, housing, finance and planning)
- A HIS cannot and should not generate just one set of information for all users.
- Tailor the type of information to user's needs.

Characteristics of the data Cont.

(e) Timeliness of reporting and feedback

- Streamline and improve data collection, transfer, data processing and data analysis
- Introduce IT (e.g, computerized data management, electronic transfer using wide area network, preprogrammed data processing) in effective, efficient and sustainable manner

Characteristics of the decisions

Use of information varies with the characteristics of decision to be made

Characteristics of Decision	More Use of Information	Less use information
Urgency	Long term problems	Short term problems
Complexity	Clear Problems	Complex
Level	Operational (lower) Level	Strategic (higher) Level
Risk	Low-risk decision	High-risk decision

Characteristics of the organizations

- (a) Private organizations with profit incentives use information for decision substantially more often than public ones.
- (b) In developing countries, the incidence of information-based decision making is lower in the health sector compared with other sectors and industry, because the use of information can be expected to be low when the incentive to perform and to monitor quality is low.
- (c) Knowledge generated from inside the organization itself is used more frequently for decision making than knowledge from an outside source.
- (d) There should be a strong tendency to use information as long as the system was designed and agreed upon “from inside” rather than imposed by outside forces.

Cultural difference between “data people” and “action people”

- “Action people” = policy makers and programme managers
- “Data People” = HIS managers and staff
- The psychology or the “culture” of people who use information is quite different from those who collect, analyze and report information.

Cultural difference between “data people” and “action people” Cont.

Characteristics	Action people	Data people
Incentive/main Objective	Reelection, Good standing with Supervision	Publication (researcher): detailed report (HIS)
Time horizon	Short: weeks or days, Work under strong time Pressure	Long: months or years
Main interest in Looking at data	Relative values, Comparing: <ul style="list-style-type: none">• With performance objectives• By regions• By time, trends	Absolute values and totals

Cultural difference between “data people” and “action people” cont.

Characteristics	Action people	Data people
Cost orientation	Strong, always want to know what an action costs	Weak, frequently not interested in costs
Language	Action-oriented Managerial jargon	Precise, Academic jargon
Communication style	Short memos, Executive summaries, Business meeting	Full reports, Written publication, Conferences

Cultural difference between “data people” and “action people” cont.

Characteristics	Action people	Data people
Training	Administration, Economics Management, Medicine	Statistics, Informatics, Medicine
Familiarity with data	Limited	Excellent
Familiarity with substance	Excellent	Limited
Computer Literacy	Limited	Excellent

Cultural difference between “data people” and “action people” cont.

- In fact, the health care providers are provider and, at the same time, users of data.
- Data people must leave their restricted realm of forms, computers and reports and feel responsible for how they use data.
- Data people must know the needs and constraints of decision makers.
- Decision makers must know what data they need and communicate these needs to data people.

Communication between “data people” and “action people”

Communication process within a health team

- Verbal and personal briefing on the main findings are much more likely to stimulate the use of information than written reports alone.
- Create a culture of regular dialogue and exchange between data people and action people
- Communicate relevant information beyond health system to: such as media, funding agencies and other sectors like education and agriculture

Communication between “data people” and “action people” cont.

Feedback process

- Speed of feedback is of paramount importance to motivate health practitioner or managers at the periphery to use information.
- Modern IT (wide area networking) can help speed up feedback and allow interactive communication regarding interpretation.

Communication between “data people” and “action people” cont.

Communication products

- Style
- Contents
- Comparisons

Communication between “data people” and “action people” cont.

Communication products (Style)

- Report should be customized according to major issues (e.g., policy issues, efficiency, budgetary advocacy) and time pressure of the decision makers.
- Reports should be short (not more than 10 pages +1 – page Executive summary)
- Full Report should act as back up for further reference rather as a main document for communication

Communication between “data people” and “action people” cont.

Communication products (Style) Cont.

- Table rarely help decision-makers find the most crucial information in a short time. Good graphical displays are effective presentation tools.
- When possible, hire professional writers to rewrite research results for decision makers.

Communication between “data people” and “action people” cont.

Communication products (Contents)

- Information should be related to meaningful population denominators
- Example: Report the percentage of all children in a given area ages 1 Year who have been immunized instead of the total number of children immunized.

Communication between “data people” and “action people” cont.

Communication products (Comparisons)

Use meaningful comparisons rather than absolute numbers:

- **Time comparison** (trends comparing past and present information)
- **Geographical comparison**
 - Between health units and districts (position of performance of health center X with the mean of all health centers)
 - GIS is particularly used

Communication between “data people” and “action people” cont.

Communication products (Comparisons) Cont.

Use meaningful comparisons rather than absolute numbers:

- **Comparison between population subgroups**
Example: In terms of health status, health care utilization, and risk factors.
- **Comparison of actual performance versus mean performance**
- **Comparison of actual versus planned performance**

Communication between “data people” and “action people” cont.

Communication products (Comparisons) Cont.

- Performance charts, containing performance objective and actual performance are very useful action-oriented graphical tools.
- Tentative conclusion keyed to the major issues
- (If possible) different options for actions, together with consequences and costs.

See You Soon

